

Date: Wednesday, 9/12/2007 12:17:01 PM  
User: Kim Johnston

# Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SADDLE BILLET
Job Number : 34643	
Estimate Number : 10032	
P.O. Number : N/A	Part Number : D6101001
This Issue : 9/12/2007 S.O. No. : N/A	Drawing Number : D6101 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : MACHINED PARTS	Drawing Revision : A
Previous Run : 34201	Material : N/A
Written By : <u>[Signature]</u>	Due Date : 9/30/2007
Checked & Approved By : <u>[Signature]</u>	Qty: <u>101</u> Um: Each
Comment : Est. B: 01.05.04 New Issue EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING 4583  
Issue P/O: 4583  
a) Description: Aluminum billet  
b) 6.00" x 6.250" x 2.00" thick  
c) Tolerance on length are +0.025"/-0.000" AE +/-0.008"  
d) Grain direction along 6.00" length  
e) Material: 7075-T7351 (QQ-A-250/12)  
f) Material certification required

11 07-13 100

2.0	D6101001P	7075-T7351 2X6X6.25
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 100.0000 Each(s)  
7075-T7351 2X6X6.25

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1  
Receive & Inspect For Transit Damage  
Ensure material certification is attached

07/26 100

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK  
Ensure Material certification comply to Dwg D

07/10/04 101

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: D Date: 27/10/04  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 9/12/2007 12:17:01 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE BILLET

Job Number: 34643

Part Number: D6101001

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

*mk 07/10/04*

(101)

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*DA/10/04*

(101)

Job Completion



*U 8.10.04*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

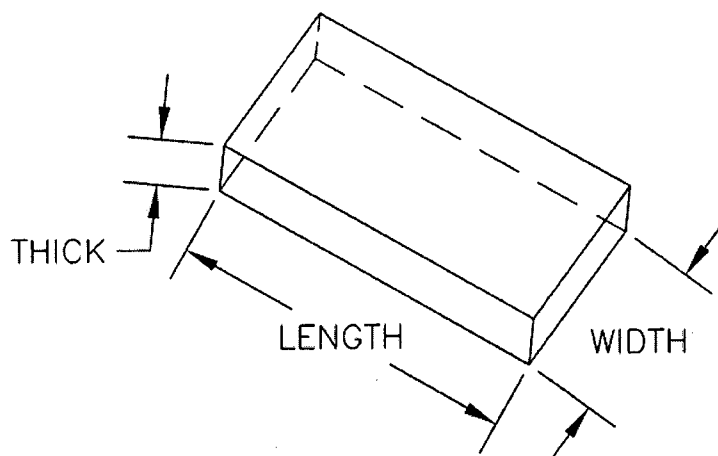
NOTE: Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>JS</i>	DRAWING NO. D6101	Rev. A SHEET 1 OF 1
DATE 01.03.30		TITLE SADDLE BILLET, 7075	SCALE NTS
A	01.03.30	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
01.04.23 *CP*



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *34643*

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<b>SHIP TO:</b> A M CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131
<b>SOLD TO:</b> AM CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131

**KAISER  
ALUMINUM**  
 Trentwood Works - Spokane, WA 99215  
 Phone: (800) 367-2586

**CERTIFIED TEST REPORT**

Serial Number  
 4099234

<b>CUSTOMER PO NUMBER:</b> 01-04412	<b>WORK PACKAGE:</b>	<b>CUSTOMER PART NUMBER:</b> 6857 A97075-60	<b>SHIP UNLOAD ID:</b> 100990/17	<b>GOVT CONTRACT NUMBER:</b>
<b>KAISER ORDER NO:</b> 1049378	<b>LINE ITEM:</b> 1	<b>SHIP DATE:</b> 6-JUN-2007	<b>ALLOY:</b> 7075	<b>CLAD:</b> BARE
<b>TEMPER:</b> T7351	<b>PRODUCT DESCRIPTION:</b> MILL FINISH PLATE			
<b>WEIGHT SHIPPED:</b> 2878 LB	<b>QUANTITY:</b> 2 PCS EST.	<b>S/L NUMBER:</b> 2013143	<b>GUAGE:</b> 2.0000 IN	<b>WIDTH:</b> 48.500 IN
		<b>LENGTH:</b> 144.500 IN		

**Certified Specifications**

AMS 4078/RevF  
 ASTM B 209/Rev06  
 BSS 7055/RevA  
 DPS 4.713/RevN/AmdAF  
 GSS16100/RevG

AMS-QQ-A-250/12  
 ASTM B 594/Rev06  
 CMMP 025/RevR  
 EAC MS1011/RevD  
 MMS 159/RevN

AMS-STD-2154  
 BAC 8439/RevH  
 CSTI 008/RevC  
 GAMPS 9101/RevB  
 PS 21211/RevK

Test Code: 4297

**Test Results**

Lot: 389178A9 Cast 976 Drop 49 Ingot 4

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.4 : 73.5 (506 : 507)	82.5 : 82.6 (431 : 432)	11.3 : 11.3

Conductivity %IACS :	41.4 Min	41.8 Max
(MS/M) :	24.0 Min	24.1 Max

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.11	0.23	1.49	0.02	2.40	0.18	5.80	0.03	0.01	0.01	TOT 0.04

**ALLOY LIMITS**

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.20	0.00	2.10	0.18	5.10	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.00	0.30	2.90	0.28	6.10	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

**CASTLE METALS CORP.**DATE RCVD 6/7/07IAC 6857APPROVED BY fw-jps

**KAISER  
ALUMINUM**

Trentwood Works - Spokane, WA 99215  
Phone: (800) 387-2586

**CERTIFIED TEST REPORT**

Serial Number  
4099234

**TEST NOTES**

Metal represented by this test report was immersion  
ultrasonically tested from one side and meets the Class A  
and Class B requirements of all specifications referenced  
on this test report.

**CERTIFICATION**

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM & CHEMICAL CORPORATION LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. 180-6051-2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**



## TO:

A M CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4099554

## SOLD TO:

AM CASTLE & CO  
3400 NO. WOLF ROAD  
FRANKLIN PARK, IL 60131

CUSTOMER PO NUMBER: 01-84412		WORK PACKAGE:		CUSTOMER PART NUMBER: 8857 A97075-80		SHIP RUN/LOAD ID: 100992/24		GOV'T CONTRACT NUMBER:		
KAISER ORDER NO: 1049378		LINE ITEM: 1	SHIP DATE: 8-JUN-2007		ALLOY: 7075	CLAD: BARE	TEMPER: T7351		PRODUCT DESCRIPTION: MILL FINISH PLATE	
WEIGHT SHIPPED: 4300 LB		QUANTITY: 3 PCS EST.		B/L NUMBER: 2013189		GAUGE: 2.0000 IN		WIDTH: 48.600 IN		LENGTH: 144.500 IN

### Certified Specifications

AMS 4078/RevG  
ASTM B 209/Rev06  
BSS 7055/RevA  
DPS 4.713/RevN/AmdAF  
GSS18100/RevG

AMS-QQ-A-250/12  
ASTM B 594/Rev08  
CMMP 025/RevR  
EAC MS1011/RevD  
MMS 159/RevN

AMS-STD-2154  
BAC 5439/RevH  
CSTI 008/RevC  
GAMPS 9101/RevB  
PS 21211/RevK

Test Code: 4297

### Test Results

Lot: 403711A5 Cast 976

Drop 81

Ingot 3

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	73.7 : 73.8 (508 : 509)	62.3 : 62.8 (430 : 433)	11.5 : 11.6

Conductivity %IACS :	42.0 Min	42.5 Max
(MS/M) :	24.4 Min	24.7 Max

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.10	0.11	1.5	0.01	2.5	0.19	5.7	0.01	0.01	0.00	TOT 0.03

### ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075 MIN	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

CASTLE METALS CORP.  
DATE RCVD 6/11/07  
IAC 6857  
APPROVED BY fw-2



# KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215  
Phone: (800) 367-2586

## CERTIFIED TEST REPORT

Serial Number  
4099554

### TEST NOTES

Metal represented by this test report was immersion  
ultrasonically tested from one side and meets the Class A  
and Class B requirements of all specifications referenced  
on this test report.

### CERTIFICATION

KAISER ALUMINUM & CHEMICAL CORPORATION (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A. AND HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT-TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS ARE ON FILE, SUBJECT TO EXAMINATION. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM & CHEMICAL CORPORATION LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULANT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED

**BILL POYNOR, LABORATORIES SUPERVISOR**

*Bill Poy*